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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,725	09/19/2003	Gabriele Luculli	852263.411	6053
38106	7590	10/23/2006	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			WANG, RONGFA PHILIP	
701 FIFTH AVENUE, SUITE 5400			ART UNIT	
SEATTLE, WA 98104-7092			PAPER NUMBER	

2191  
DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/666,725

Applicant(s)

LUCULLI, GABRIELE

Examiner

Philip Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 14-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 2/27/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

***Detail Action***

1. This office action is in response to the application filed on 9/19/2003.
2. Claims 1-17 are pending.

***Claim Objections***

3. Claims 14-17 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 10-13. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Regarding claims 5, 10, and 14 the phrase "substantially" renders the claim indefinite because it is unclear what is exact meaning of substantially all code sections are disassembled. Is 90% substantial or 70% substantial? For this reason, the claim language is considered indefinite. For purpose of art rejection, the examiner will interpret code sections are disassembled. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Norman Ramsey ("Specifying Representations of Machine Instructions", 1997 ).

As per claim 1,

Ramsey discloses

- reading an executable embedded code for one given processor;  
extracting code sections from said executable embedded code (p. 511, section 3.4, matching statements and decoding); reading a file containing a description of a set of instructions for said given processor, based on concepts of TOKEN, FIELDS, ATTRIBUTES and CONSTRUCTORS of a SLED language , enriched with an additional CLASS definition grouping different instructions under a common label (p. 512, 2<sup>nd</sup> para., "...reads a specification from one file..."; p. 501, section 3, SLED Syntax);
- and using said description to derive from said TOKEN, FIELDS, ATTRIBUTES, CONSTRUCTORS and CLASS an internal representation taking a form of a decision tree (p. 513, para. 5, "... builds a decision tree...).

As per claim 2,

the rejection of claim 1 is incorporated;

Ramsey discloses

- said decision tree is followed by an algorithm to derive a disassembled program corresponding to said executable embedded code (p. 493, last para., line 2, "...disassemblers decode...").

As per claim 3,

the rejection of claim 2 is incorporated;

Ramsey discloses

- each piece of embedded code is processed as follows: starting from a root node and ending to a leaf node of said decision tree; determining a unique path comprising true branches, having values corresponding to contents of said code sections, ending to a leaf node and executing all tests within said path to identify an instruction corresponding to said section of embedded software code; and repeating the preceding step until all the embedded code is processed (p. 513, para. 5, for example, "...The decision tree checks all...while examining each field...").

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As per claim 4,

the rejection of claim 1 is incorporated;

Ramsey discloses

- said internal representation is used for automatically retargeting a Static Code Analyzer which comprises the following steps: following recognition of an instruction, when a leaf node is reached in a tree visit, such recognized instruction is marked with a class that is found in the leaf node; exploiting a sequence of recognized instructions with their class label in order to recover a global control-flow graph of the executable embedded code; and discovering procedures boundaries of the executable embedded code by using the recovered global control flow graph (p. 513, para. 5, for example, "...The decision tree checks all...while examining each field...").

As per claim 5,

Ramsey discloses

- reading a first file having an image of executable binary code for a processor; extracting code sections forming parts of the executable binary code from the image (p. 511, section 3.4, matching statements and decoding); reading a second file having a description of a set of instructions for the processor (p. 512, 2<sup>nd</sup>

para., "...reads a specification from one file..."); using the description to derive a decision tree representation p. 513, para. 5, "... builds a decision tree...);

- and for each code section, progressing through the decision tree representation to derive at least a portion of a disassembled program corresponding to the executable binary code, until substantially all code sections are disassembled (p. 493, last para., line 2, "...disassemblers decode...").

As per claim 6,

the rejection of claim 5 is incorporated;

Ramsey discloses

- the description of the set of instructions for the processor is based on Token, Fields, Attributes, Constructors, and Class concepts from Specification Language for Encoding Decoding (SLED) (p. 501, section 3, SLED Syntax).

As per claim 7,

the rejection of claim 5 is incorporated;

Ramsey discloses

- progressing through the decision tree representation for each code section includes: starting at a root node of the decision tree representation, determining a path including branches having values corresponding to

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contents of the code section, until ending at a leaf node; executing tests within the path to identify an instruction, at the leaf node, corresponding to the code section; and repeating the determining a path in the decision tree and executing tests therein for each of the other code sections (p. 513, para. 5, for example, "...The decision tree checks all...while examining each field...").

As per claim 8,

the rejection of claim 7 is incorporated;

Ramsey discloses

- selecting a branch if a test in that branch yields a true result, and then progressing to a next node; and otherwise not selecting a branch if a test in that branch yields a false result, and then progressing to another branch (p. 513, para. 5, for example, "...The decision tree checks all...while examining each field..."; section 3.4 matching statements and decoding).

As per claim 9,



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the rejection of claim 7 is incorporated;

- after identifying an instruction when a leaf node is reached, marking that instruction with a class label that is present at that leaf node; recovering a global control flow graph of the executable binary code by using a sequence of identified instructions with their class labels; and using the recovered global control flow graph to determine procedures boundaries of the executable binary code (p. 512, para. 6, line 3, "...implement control flow...").

As per claim 10 or 14,

- it recites the limitation of claim 5 and is rejected to the same reason set forth for the rejection of claim 5.

As per claim 11 or 15,

- it recites the limitation of claim 6 and is rejected to the same reason set forth for the rejection of claim 6.

As per claim 12 or 16,

- it recites the limitation of claim 7 and is rejected to the same reason set forth for the rejection of claim 7.

As per claim 13 or 17,

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- it recites the limitation of claim 8 and is rejected to the same reason set forth for the rejection of claim 8.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

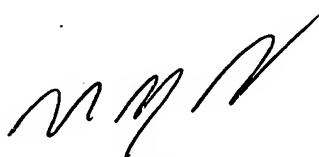
It is noted that any citation **[[s]]** to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. **[[See, MPEP 2123]]**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8:00AM - 4:00PM. Any inquiry of general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'WZHEN', is positioned above the printed name.

WEI ZHEN  
SUPERVISORY PATENT EXAMINER